



LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS

LEPP Joint Seminar



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**Nonperturbative calculations for
exclusive semileptonic B(s)
decays in the Standard Model**

B-physics provides a plethora of tests of the Standard Model of elementary particle physics. In order to fully exploit the power of experiments like LHCb or Belle II, it is essential to improve Standard Model predictions. This will also help to understand e.g. the reported tantalizing signs of lepton flavor universality violations observed in semileptonic B decays.

Using nonperturbative Lattice QCD calculations, I will present details of our Standard Model determination of form factors for exclusive semileptonic $B_s \rightarrow D_s \ell \nu$ and $B_s \rightarrow K \ell \nu$ decays. These form factors are the basis to predict ratios studying lepton flavor universality or, when combined with experimental results, to obtain CKM matrix elements V_{cb} and V_{ub} . Due to different experimental and theoretical set-ups, these alternative b-decay channels may also help to shed light on the tension between the analysis of inclusive and exclusive decays or may further serve as proxy for corresponding B decays.

Friday, March 8, 2019

1pm

401 Physical Sciences Bldg.